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EXAMINER

CAO, CHUN

ART UNIT

PAPER NUMBER

2115

DATE MAILED: 10/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/882,540

Applicant(s)

GARRITSEN ET AL.

Examiner

Chun Cao

Art Unit

2115

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. Claims 1 and 3-36 are presented for examination. Claim 2 was canceled.

#### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/12/05 has been entered.

3. The text of those applicable section of Title 35, U.S. Code not included in this action can be found in the prior Office Action.

4. The rejections are respectfully maintained and incorporated by references as set forth in the last office action and reproduced infra for applicant's convenience.

#### ***Claim Objections***

5. Claims 3 and 9 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 3 and 9 depend on a canceled claim (claim 2).

#### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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7. Claims 1, 3-14 and 20-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the graphics controller power supply voltage level" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claims 3-14 and 20-22 are rejected because they incorporate the deficiencies of claim 1.

Claim 23 recites the limitation "the voltage level" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claims 24-34 are rejected because they incorporate the deficiencies of claim 23.

8. Claims 1, 3, 8-11, 13-15, 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Parrish (Parrish), U.S. patent no. 6,704,879.

As per claim 1, Parrish teaches a method of managing power in a graphics controller [col. 1, lines 35-37], comprising:

receiving a change indication related to a system power supply [col. 2, lines 49-50];

adjusting a first clock [col. 2, lines 49-50];

adjusting a graphics controller power supply voltage level [col. 2, lines 27-45, 60-65; col. 3, lines 16-18; emphasis added, "power consumption by the graphics controller is proportional to the clock frequency"]; and

informing by the graphics controller a BIOS with an indication of a change related to the system power supply, wherein the informing includes requesting a set of one or more available clock rates [col. 2, line 58-col. 3, line 3; col. 4, lines 31-36].

As per claim 3, Parrish teaches the method further comprises:

receiving the set of one or more available clock rates; checking a state of the graphics controller; choosing a desired clock rate from the set of available clock rates; adjusting a second clock to conform to the desired clock rate [col. 3, lines 1-18]; and wherein:

adjusting the first clock comprises reducing a rate of the first clock; and adjusting the graphics controller power supply voltage level comprises reducing the graphics controller power supply voltage [col. 2, line 58-col. 3, line 18].

As per claim 8, Parrish teaches that the graphics controller power supply voltage level is associated with a graphics controller power supply internal to the graphics controller [fig. 1; col. 2, lines 58-65].

As per claim 9, Parrish teaches that the graphics controller power supply voltage level is associated with a controller power supply external to the graphics controller, and adjusting the graphics controller power supply voltage level includes programming the graphics controller power supply with a signal [fig. 1; col. 2, line 58 –65].

As per claim 10, Parrish teaches of adjusting the first clock comprises increasing a rate of the first clock; and adjusting the graphics controller power supply voltage level comprises increasing the graphics controller power supply voltage level [col. 2, lines 38-45, 58 –65].

As per claim 11, Parrish teaches of increasing a clock rate of a second clock [col. 2, lines 38-45].

As per claim 13, Parrish teaches of detecting a change related to a system power supply [col. 2, lines 58-65].

As per claim 14, Parrish teaches of installing a software routine [BIOS routines] in a system containing the graphics controller; the software routine suitable for detecting the change related to the system power supply [col. 1, lines 40-43; col. 2, line 48-65].

As per claim 15 is written in means plus function and contained the same limitations as claims 1 and 3, therefore same rejection is applied.

As per claim 18, Parrish teaches of receiving a software routine suitable for notifying the graphics controller; wherein, notifying the graphics controller comprises executing the software routine [col. 1, lines 40-43; col. 2, line 48-65].

As per claim 19, Parrish teaches of programming the set of available clock frequencies and storing the set of the available clock frequencies in a VGA BIOS [fig. 1; col. 2, line 48-col. 3, line 18].

9. Claims 4, 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parrish (Parrish), U.S. patent no. 6,704,879 in view of Dunki-Jacobs et al. (Jacobs), U.S. patent no. 5,349,525.

As per claim 4, Parrish does not explicitly teach of disabling a CLUT.

However, Jacobs teaches of disabling a CLUT [col. 14, lines 27-42].

It would have been obvious to one of ordinary skill in the art at time the invention to Jacobs state above would increase the power consumption of Parrish's system by disabling a CLUT.

As per claim 5, Jacobs teaches of disabling the CLUT [col. 14, lines 27-42]; and Parrish teaches of checking the state of the graphics controller [col. 3, lines 58-65].

As per claim 12, Jacobs teaches of enabling a CLUT [col. 14, lines 27-42].

10. Claims 6, 7, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parrish (Parrish), U.S. patent no. 6,704,879 in view of Powell (Powell), US Pat No. 6,618,042.

As to claims 6 and 16-17, Parrish does not explicitly teach notifying a system to reduce brightness of display.

Powell teaches notifying a system to reduce brightness of display [col. 4, lines 1-8].

It would have been obvious to one of ordinary skill in the art to modify the teachings of Parrish and Powell to notify a system to reducing brightness of a display in order to conserve power.

As per claim 7, Parrish inherently teaches notifying a system comprises notifying a chipset directly [fig. 1; col. 2, lines 58-63].

11. Claims 20-22 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parrish (Parrish), U.S. patent no. 6,704,879 in view of Suboh (Suboh), US Patent No. 5,524,249.

As per claim 20, Parrish does not explicitly teach disabling a first portion of circuitry responsive to checking the state of the graphics controller.

Suboh teaches disabling a first portion of circuitry responsive to checking the state of the graphics controller [col. 4, lines 20-32, 46-48. The PCLK is viewed as a first portion of the circuitry].

It would have been obvious to one of ordinary skill in the art to combine the teachings of Parrish and Suboh to disable a first portion of circuitry in response to a state of reduced power of a graphics controller in order to conserve power that may be consumed by an enabled portion of circuitry.

As per claim 21, Suboh further teaches disabling a first portion of the circuitry responsive to checking the state of the graphics controller [col. 4, lines 20-32, col. 4 lines 46-48].

As per claim 22, Suboh further teaches enabling the first portion of the graphics controller [col. 8, lines 24-27].

As per claim 36 is written in means plus function and contained the same limitations as claims 1, 3 and 20, therefore same rejection is applied.

12. Claims 23-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parrish (Parrish), U.S. patent no. 6,704,879 in view of Powell (Powell), US Pat No. 6,618,042, Dunki-Jacobs et al. (Jacobs), U.S. patent no. 5,349,525 and Suboh (Suboh), US Patent No. 5,524,249.



As to claims 23-35 basically are the corresponding elements that are carried out the method of operating step in claims 1 and 3-22. Accordingly, claims 23-35 are rejected for the same reason as set forth for claims 1 and 3-22.

### ***Response to Arguments***

13. Applicant's arguments filed on 9/12/05, which have been fully considered but they are not persuasive.

14. In the remarks, Applicants argued that Parrish fails to teach, disclose or suggest a limitation of "adjusting a voltage level of a graphics controller power supply in response to a change in a system power supply".

15. The examiner respectfully traverses the argument for the following reasons:

There is no claim language directed to the above limitation in claim 1. Also, Parrish inherently teaches of adjusting a voltage level of a graphics controller power supply in response to a change in a system power supply [col. 2, lines 27-45, 60-65; col. 3, lines 16-18]. Such as, it is also well known in the computer art, it is advantageous from a power savings perspective to reduce voltage when possible because the power saved is proportional to the square of the voltage reduction, whereas the power savings is linear with respect to frequency reduction. In order to avoid the possible unpredictable results, the voltage should not be adjusted downward until the clock speed has been reduced, and the clock speed should not be adjusted upward until the voltage has been increased. Therefore, the voltage level is adjusted according to changing of frequency.

Also see detailed rejection indicated above.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun Cao whose telephone number is 571-272-3664. The examiner can normally be reached on Monday-Friday from 7:30 am-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C. Lee can be reached on 571-272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



CHUN CAO  
PRIMARY EXAMINER

Oct. 6, 2005